

What is claimed is:

1. A connector system for use with first and second wire harnesses, said system comprising:

a first housing to which is secured the first wire harness;

a second housing to which is secured the second wire harness, said second housing being engageable with said first housing and so as to define an open interior therebetween; and

a first plurality of terminal pins associated with said first housing, a second plurality of opposingly extending and interconnecting terminal pins associated with said second housing, each of said housings further comprising a sub-assembly including at least one individual and stackable terminal pin retaining layer arranged within said open interior;

said stackable pin retaining layers providing the ability to adapt the capabilities of the connector system to allow for unique wire harness subsystems to be quickly assembled.

2. The connector system as described in claim 1, said first housing further comprising a male sub-assembly and said second housing further comprising a female sub-assembly, each of said male and female sub-assemblies exhibiting a specified shape and size and wherein said female sub-assembly is insertably engaged within said male sub-assembly.

3. The connector system as described in claim 2, further comprising an elongate extending and keyed portion extending from said female sub-assembly, a receiving portion being defined upon a surface of said male sub-assembly and receiving said extending keyed portion upon slidable insertion of said male sub-assembly over said female subassembly.

4. The connector system as described in claim 2, said male and female sub-assemblies each further comprising a plurality of individual and stackable terminal pin retaining layers, individual subset pluralities of said pins, corresponding to given retaining layers, exhibiting a specified overall length.

5. The connector system as described in claim 1, further comprising first and second seal retainers associated with exposed and oppositely extending ends of said first and second housings.

6. The connector system as described in claim 5, said seal retainers each further comprising a slit matt seal and an end-assembleable two piece seal retainer.

7. The connector system as described in claim 1, each of said stackable terminal pin retaining layers further comprising a selected array of apertures defined therethrough.

8. The connector system as described in claim 7, said aperture array defined through each of said pin retaining layers further including at least one of a circular, oval and channel shaped aperture.

9. The connector system as described in claim 2, each of said male and female sub-assemblies further comprising a plurality of depth-wise extending recesses extending along selected inner surfaces thereof, each of said terminal pin retaining layers further comprising projecting tab portions seating within selected recesses.

10. The connector system as described in claim 2, said male sub-assembly further comprising at least one inwardly recessed groove extending along a selected inner surface thereof, a depth-wise extending rail projecting from a corresponding outer surface of said female sub-assembly and seating within said recessed groove upon inserting engagement between said sub-assemblies.

11. The connector system as described in claim 6, further comprising first and second pairs of projecting window portions associated with each of said first and second housings, said window portions receiving keyed portions associated with each of said two-piece and assembleable seal retainers.

12. The connector system as described in claim 1, individual wires associated with the first and second wire harnesses extending to selected ones of said first and second pluralities of terminal pins.

13. The connector system as described in claim 6, said matt seal further comprising a plurality of extending slits for providing wire harness clearance.

14. The connector system as described in claim 1, further comprising a conductive insert secured between succeeding terminal pin retaining layers, said insert electrically shorting pin terminals associated with said succeeding layers.

15. The connector system as described in claim 1, further comprising an electrical component secured to a selected terminal pin retaining layer.

16. A connector system for use with first and second wire harnesses, said system comprising:

a male housing sub-assembly to which is secured the first wire harness;

a female housing sub-assembly to which is secured the second wire harness, said female sub-assembly being engageable with said male sub-assembly and so as to define an open interior therebetween; and

first and second pluralities of terminal pins associated with said male and female sub-assemblies, at least one of said sub-assemblies further comprising a plurality of individual and stackable terminal pin retaining layers;

said stackable pin retaining layers providing the ability to adapt the capabilities of the connector system to allow for unique wire harness subsystems to be quickly assembled.

17. A connector system for use with first and second wire harnesses, said system comprising:

a male housing sub-assembly;

a female housing sub-assembly engageable with said male sub-assembly and so as to define an open interior therebetween;

first and second pluralities of terminal pins associated with said male and female sub-assemblies, individual wires associated with each of the first and second wire harnesses extending to selected ones of the first and second pluralities of terminal pins;

each of said male and female sub-assemblies further comprising a plurality of individual and stackable terminal retaining layers to which subset pluralities of said pins are secured;

said stackable pin retaining layers providing the ability to adapt the capabilities of the connector system to allow for unique wire harness subsystems to be quickly assembled.